IN THE CLAIMS

Amend claims 1-8, and add new claims 11-21 as follows:

1. (Currently Amended) A charged particle beam irradiation equipment, for applying a charged particle beam to an irradiation area, comprising

a first scanning electromagnet for ~~deflecting~~ scanning a charged particle beam in a first direction,

a second scanning electromagnet for scanning a charged particle beam in a second direction which intercrosses with the first direction, ~~and~~

a first power supply for applying a voltage to the first scanning electromagnet, and

a second power supply for applying a voltage to the second scanning electromagnet, wherein ~~characterized in that~~

each of said first and second ~~the~~ power ~~supply~~ supplies is equipped with a first power supply unit having no filter and a second power supply unit having a filter, respectively.

2. (Currently Amended) A charged particle beam irradiation equipment according to Claim 1, wherein ~~characterized in that~~

the charged particle beam irradiation equipment has a first control device which, when the charged particle beam is applied to the a second irradiation area in said first direction in the irradiation object after the charged particle beam was applied to a first irradiation area in the irradiation object,

computes a voltage command value that is given to the first power supply unit in said first power supply based on the variation of an exciting current necessary for the scanning electromagnet to move a position where the charged particle beam is applied from the first irradiation area to the second irradiation area and a transit time necessary for the scanning electromagnet to move the position where the charged particle beam is applied from the first irradiation area to the second irradiation area,

computes a voltage command value that is given to the second power supply unit in said first power supply based on an exciting current value necessary for the first scanning electromagnet to keep the position where the charged particle beam is applied in the second irradiation area and the resistance of the first scanning electromagnet, and

outputs the voltage command values obtained through the computations to the first power supply unit and the second power supply unit in said first power supply; and wherein

the first power supply unit and the second power supply unit in said first power supply output voltages according to the voltage command values ~~outputted~~ output by the control device, respectively.

3. (Currently Amended) A charged particle beam irradiation equipment according to Claim 2, wherein ~~characterized in that~~

the first control device stops output of the voltage command value to the first power supply unit in the first power supply at the point of time when the transit time elapsed after the first control device ~~outputted~~ output the voltage command value to the first power supply unit in the first power supply, and

the first power supply unit stops output of the voltage when the output of the voltage command value by the first control device is stopped.

4. (Currently Amended) A charged particle beam irradiation equipment, for applying a charged particle beam to an irradiation area, comprising:

a first scanning electromagnet for deflecting the charged particle beam in a first direction,

a second scanning electromagnet for deflecting the charged particle beam in a second direction which intercrosses with the first direction, ~~and~~

a first power supply for applying a voltage to the first scanning electromagnet, and

a second power supply for applying a voltage to the second scanning electromagnet, ~~characterized in that~~wherein

each of the first and second ~~the~~ power ~~supply~~ supplies comprises:~~,~~

~~a first power supply unit including~~ a first inverter for outputting a DC voltage and no filter, and

~~a second power supply unit including~~ a second ~~converter~~ inverter for outputting a DC voltage ~~connected to the first inverter in series~~, and

a DC filter connected to output ports of the second inverter in ~~parallel~~ series, respectively, and wherein

the first scanning electromagnet is connected to the first inverter and ~~the second inverter in series~~ the DC filter in the first power supply, and

the second scanning electromagnet is connected to the first inverter and the DC filter in the second power supply.

5. (Currently Amended) A charged particle beam irradiation equipment according to Claim 4, wherein ~~characterized in that~~

the first power supply comprises

first control means for controlling the output voltage value of the first inverter in the first power supply,

second control means for controlling the output voltage value of the second inverter in the first power supply, and

a first scanning electromagnet control device for ~~indicating~~ instructing the output voltage value of the first inverter in the first power supply to the first control means as well as ~~indicating~~ instructing the output voltage value of the second inverter in the first power supply to the second control means; and

wherein, the first scanning electromagnet control device which, when the charged particle beam is applied to the second irradiation area in the first direction in the irradiation object after the charged particle beam was applied to the first irradiation area in the irradiation object,

computes a voltage value instructing to the first control means based on the variation of the exciting current necessary for the first scanning electromagnet to move the position where the charged particle beam is applied from the

first irradiation area to the second irradiation area and the transit time necessary for the scanning electromagnet to move the position where the charged particle beam is applied from the first irradiation area to the second irradiation area; and

computes a voltage value instructing ~~that is indicated~~ to the second control means based on the exciting current value necessary for the first scanning electromagnet to keep the position where the charged particle bema is applied to the second irradiation area and the resistance of the first scanning electromagnet, and

outputs the voltage values obtained through the computations to the first control means and the second control means, respectively; and wherein

the first control means and the second control means control the output voltages values of the first inverter and the second inverter in the first power supply, respectively, according to the voltage values ~~indicated~~ instructed by the first scanning electromagnet control device.

6. (Currently Amended) A charged particle beam irradiation equipment according to Claim ~~5~~15, wherein ~~characterized in that~~

the first scanning electromagnet control device stops the output of the voltage value to the first control

means at the point of time when the transit time elapsed after the first scanning electromagnet control device started to ~~outputted~~ output the voltage value to the first control means, and

the first control means sets the first inverter in the first power supply to be in a short-circuit condition when output of the voltage value ~~by~~ from the first scanning electromagnet ~~the~~ control device is stopped.

7. (Currently Amended) A charged particle beam irradiation equipment according to Claim ~~5~~15, comprising a current detector for detecting the exciting current flowing in the first scanning electromagnet, characterized in that

the first scanning electromagnet control device ~~which~~

compares the exciting current detected by the current detector ~~and~~ with the exciting current value necessary for the first scanning electromagnet to keep the position where the charged particle beam is applied in the second irradiation area, and

stops the output of the voltage value to the first control ~~means~~ device at the point of time when the exciting current value detected by the current detector reaches the exciting current value necessary for the first scanning

electromagnet to keep the position where the charged particle beam is applied in the second irradiation area, ~~and~~ wherein

the first control ~~means set~~ device sets the first inverter in the first power supply to be in a short-circuit condition when the output of the voltage value ~~by~~ from the first scanning electromagnet ~~the~~ control device is stopped.

8. (Currently Amended) A charged particle beam irradiation equipment according to ~~any one of Claim 5 to Claim 7~~claim 15, wherein ~~characterized in that~~ the second control ~~means~~ device controls the second inverter in the first power supply ~~in~~ with ~~a~~ PWM ~~scheme~~ control.

9-10. (Canceled).

11. (New) A charged particle beam irradiation equipment according to claim 6, wherein

the second control device controls the second inverter in the first power supply with PWM control.

12. (New) A charged particle beam irradiation equipment according to claim 7, wherein

the second control device controls the second inverter in the first power supply with PWM control.

13. (New) A charged particle beam irradiation equipment according to claim 2, further comprising a second control device, wherein

when the charged particle beam is applied to the fourth irradiation area in the second direction in the irradiation object after the charged particle beam was applied to the third irradiation area in the irradiation object,

the second control device computes a voltage command value instructing the first power supply unit in the second power supply based on the variation of an exciting current necessary for the second scanning electromagnet to move where the charged particle beam is applied from the third irradiation area to the fourth irradiation area and the transit time necessary for the second scanning electromagnet to move where the charged particle beam is applied from the third irradiation area to the fourth irradiation area;

the second control device computes a voltage command value instructing the second power supply unit in the second power supply based on the exciting current value necessary for the second scanning electromagnet to keep the position where the charged particle beam is applied in the fourth irradiation area and the resistance of the first scanning electromagnet; and

the second control device outputs the voltage command values obtained through the computations to the first power supply unit and the second power supply unit in the second power supply, respectively; and further wherein

the first power supply unit and the second power supply unit in the second power supply output voltage values, respectively, according to the voltage command values instructed by the second control device.

14. (New) A charged particle beam irradiation equipment according to claim 13, wherein:

the second control device stops the output of the voltage command value to the first power supply unit in the second power supply at the point of time when the transit time elapsed after the output of the voltage command value to the third power supply unit in the second power supply is started, and

the first power supply unit in the second power supply stops the output of the voltage when output of the voltage command value from the second control device is stopped.

15. (New) A charged particle beam irradiation equipment according to claim 4, characterized in that:

the first power supply comprises:

first control device for controlling the output voltage value of the first inverter in the first power supply,

second control device for controlling the output voltage value of the second inverter in the first power supply, and

a first scanning electromagnetic control device for instructing the output voltage value of the first inverter in the first power supply to the first control device as well as instructing the output voltage value of the second inverter in the first power supply to the second control device; wherein

the first scanning electromagnet control device, when the charged particle beam is applied to the second irradiation area in the irradiation object after the charged particle beam was applied to the first irradiation area in the first direction in the irradiation object,

computes a voltage value instructing to the first control device based on the variation of an exciting current necessary for the first scanning electromagnet to move a position where the charged particle bema is applied from the first irradiation area to the second irradiation area and the transit time necessary for the first scanning electromagnet to move the position where the charged particle beam is applied

from the first irradiation area to the second irradiation area;

computes a voltage command value instructing to the second control device based on the exciting current value necessary for the first scanning electromagnet to keep the position where the charged particle beam is applied in the second irradiation area and the resistance of the first scanning electromagnet; and

outputs the voltage command values obtained through the computations to the first control device and the second control device, respectively; wherein

the first control device and the second control device control the output voltage values of the first inverter and the second inverter in the first power supply, respectively, according to the voltage values instructed by the first scanning electromagnet control device.

16. (New) A charged particle bean irradiation equipment according to claim 15, wherein:

the second power supply comprises

third control device for controlling the output voltage value of the first inverter in the second power supply,

fourth control means for controlling the output voltage value of the second inverter in the second power supply, and

a second scanning electromagnet control device for instructing the output voltage value of the first inverter in the second power supply to the third control device as well as instructing the output voltage value of the second inverter in the second power supply to the fourth control device; wherein

the second scanning electromagnet control device, when the charged particle beam is applied to the fourth irradiation area in the irradiation object after the charged particle beam was applied to the third irradiation area in the second direction in the irradiation object;

computes a voltage value instructing to the third control device based on the variation of an exciting current necessary for the second scanning electromagnet to move a position where the charged particle beam is applied from the third irradiation area to the fourth irradiation area and the transit time necessary for the second scanning electromagnet to move the position where the charged particle beam is applied from the third irradiation area to the fourth irradiation area;

computes a voltage command value instructing to the fourth control device based on the exciting current value

necessary for the second scanning electromagnet to keep the position where the charged particle beam is applied in the fourth irradiation area and the resistance of the second scanning electromagnet, and

outputs the voltage command values obtained through the computations to the third control device and the fourth control device, respectively; wherein

the third control device and the fourth control device control the output voltage values of the first inverter and the second inverter in the second power supply, respectively, according to the voltage values instructed by the second scanning electromagnet control device.

17. (New) A charged particle beam irradiation equipment according to claim 16, wherein:

the second scanning electromagnet control device stops the output of the voltage value to the third control means at the point of time when the transit time elapsed after the third scanning electromagnet control device started to output the voltage value to the first control means, and

the third control device sets the first inverter in the second power supply to be a short-circuit condition when output of the voltage value from the second scanning electromagnet control device is stopped.

18. (New) A charged particle beam irradiation equipment according to claim 16, comprising:

a current detector for detecting the exciting current flowing in the second scanning electromagnet, characterized in that

the second scanning electromagnet control device;

compares the exciting current detected by the current detector with the exciting current value necessary for the second scanning electromagnet to keep the position where the charged particle beam is applied in the fourth irradiation area; and

stops the output of the voltage value to the third control device at the point of time when the exciting current value detected by the current detector reaches the exciting current value necessary for the second scanning electromagnet to keep the position where the charged particle beam is applied in the fourth irradiation area, wherein

the third control device sets the first inverter in the second power supply to be in a short-circuit condition when the output of the voltage value from the second scanning electromagnet control device is stopped.

19. (New) A charged particle beam irradiation equipment according to claim 16, wherein

the second control device controls the second inverter in the first power supply with PWM control, and

the fourth control device controls the second inverter in the second power supply with PWM control.

20. (New) A charged particle beam irradiation equipment according to claim 17, wherein

the second control device controls the second inverter in the first power supply with PWM control, and

the fourth control device controls the second inverter in the second power supply with PWM control.

21. (New) A charged particle beam irradiation equipment according to claim 18, wherein

the second control device controls the second inverter in the first power supply with PWM control, and

the fourth control device controls the second inverter in the second power supply with PWM control.